Pterymarchia n. gen. and *Vaughtia* n. gen., two new muricid genera (Gastropoda, Muricidae: Muricinae and Ocenebrinae).

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ABSTRACT. Two new genera of Muricidae are named: *Pterymarchia* n. gen. and *Vaughtia* n. gen. They include species formerly classified in *Pterynotus* Swainson, 1833 (Muricinae), *Ocenebra* Gray, 1847, and *Urosalpinx* Stimpson, 1865 (Ocenebrinae). Following new synonyms are listed: *Tritonalia semidisjuncta* Turton, 1932 and *T. aedicularum* = *Vaughtia babingtoni* (Sowerby, 1892); *Ocenebra hayesi* Lorenz, 1995 = *V. jucunda* (Thiele, 1925); *Ocenebra newmanni* Lorenz, 1990 = *V. dunkeri* (Krauss, 1848); *Cominella fuscopicta* Turton, 1932 = *V. fenestrata* (Gould, 1860); *Purpura cribrosa* Krauss, 1859 = *V. scrobiculata* (Dunker, 1846).

RESUME. Deux nouveaux genres sont décrits chez les Muricidae: *Pterymarchia* n. gen. et *Vaughtia* n. gen. Ils sont composés d'espèces classées auparavant dans *Pterynotus* Swainson, 1833 (Muricinae), *Ocenebra* Gray, 1847, et *Urosalpinx* Stimpson, 1865 (Ocenebrinae). Les synonymes suivants sont cités pour la première fois: *Tritonalia semidisjuncta* Turton, 1932 et *T. aedicularum* = *Vaughtia babingtoni* (Sowerby, 1892); *Ocenebra hayesi* Lorenz, 1995 = *V. jucunda* (Thiele, 1925); *Ocenebra newmanni* Lorenz, 1990 = *V. dunkeri* (Krauss, 1848); *Cominella fuscopicta* Turton, 1932 = *V. fenestrata* (Gould, 1860); *Purpura cribrosa* Krauss, 1859 = *V. scrobiculata* (Dunker, 1846).

INTRODUCTION

The study of certain groups of species of the family Muricidae has allowed me to separate them from any known generic or subgeneric taxa. The necessity of describing two new genera in order to include these species was evident, and was decided only after careful examination of related supraspecific taxa of Muricinae and Ocenebrinae.

Abbreviations.
BMNH: Natural History Museum, London.
NM: Natal Museum, Pietermaritzburg.
RH: Roland Houart.

SYSTEMATICS

Family MURICIDAE Rafinesque, 1815
Subfamily MURICINAE Rafinesque, 1815
Pterymarchia, n. gen.

Type species: *Murex tripterus* Born, 1778: 287 (Fig. 1).

Range: Indo-West Pacific.

Other included species:

Pterynotus aparrii D'Attilio & Bertsch, 1980: 172, figs 2 a-d.
Coralliophila barclayanus H. Adams, 1873: 205, pl. 23, fig. 1.
Marchia bibbeyi Radwin & D'Attilio, 1976: 229, fig. 176.
Murex bipinnatus Reeve, 1845: pl. 2, fig. 6.
Pterynotus bouteti Houart, 1990: 9, figs 2, 4-6.
Purpura martinetana Röding, 1798: 141.

Description. Shell up to approximately 43 mm in length, spire high to very high. Spiral sculpture consisting of numerous major and minor, squamous cords. Axial sculpture on first to third or fourth teleoconch whorl of 9-11 strong, usually lamellate axial ribs; from fourth or fifth whorl, some axial lamellae changing into varices. Last whorl with 3 or 4, rarely 5, webbed varices, occasionally with a low node between each pair of varices on last whorl.

Aperture ovate; outer lip denticulate within.

Siphonal canal moderately long, attaining 26-39 % of the total shell length.

Operculum with apical nucleus.

Radula muricine: rachidian tooth with a broad, long central cusp, narrow lateral denticles, variable in number and strength,

long, broad lateral cusps, and smooth marginal area. Lateral teeth relatively large and broad (Figs 24-26).

Remarks. The species included in *Pterymarchia* have been usually classified in *Pterynotus* Swainson, 1833 or in *Marchia* Jousseaume, 1880, a synonym of the former.

The shell of *Pterymarchia* differs from *Pterynotus* in its different axial sculpture: species of *Pterynotus* have trivaricial sculpture from first, second, or third teleoconch whorl, and only 6-8 axial nodes on first and second teleoconch whorls, if not immediately trivaricial. The aperture in *Pterynotus* is smoother, rather strongly and briefly lirate within instead of denticulate; it is occasionally entirely smooth. To date, no species of *Pterynotus* are known to have more than three varices on their last whorl.

RADWIN & D'ATTILIO (1976) included the species of *Pterymarchia* in the genus *Marchia*, but the type species of *Marchia*, *Murex clavus* Kiener, 1843 (= *Murex elongatus* Lightfoot, 1786) is evidently a true species of *Pterynotus* (Fig. 2), while the superficially similar *Murex bipinnatus* has the typical *Pterymarchia* shell morphology (Fig. 3).

Species included in *Marchia* in RADWIN & D'ATTILIO (1976) but not retained in *Pterymarchia* are:

Murex elongatus Lightfoot, 1786 (a species of *Pterynotus*, see above);

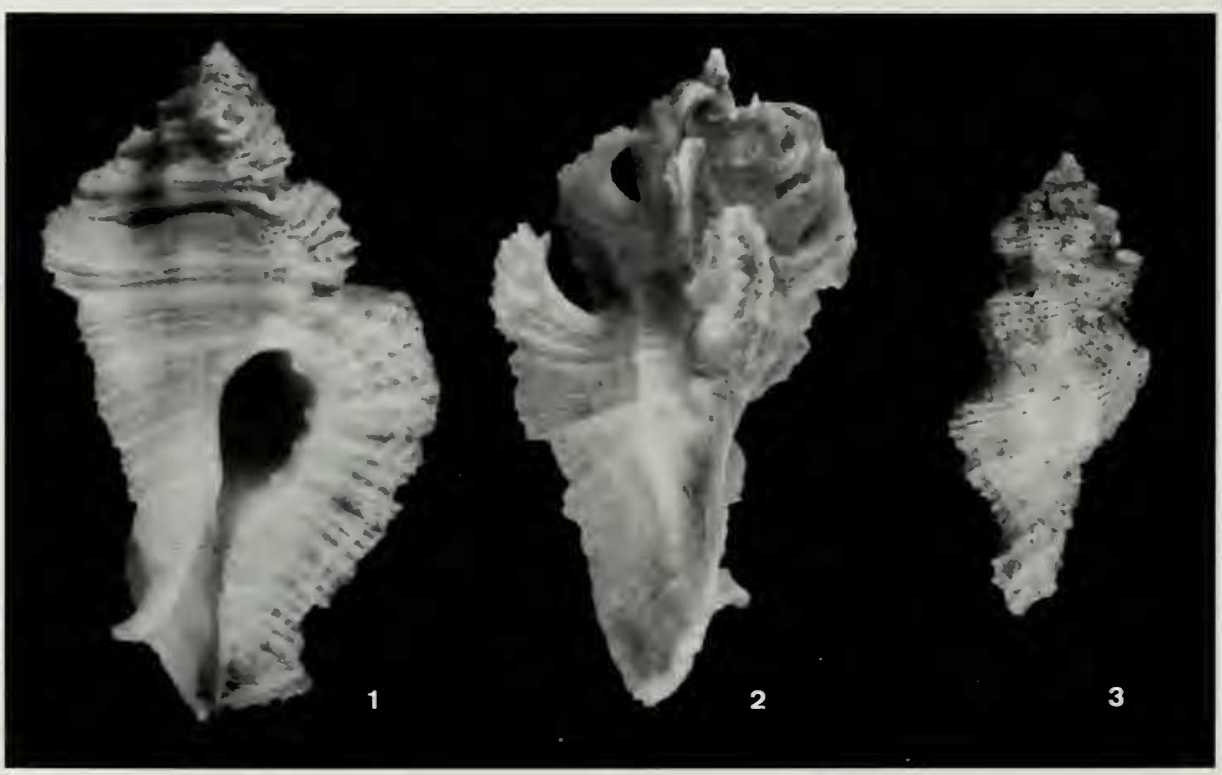
Murex laqueatus Sowerby, 1841 (a species of *Chicopinnatus* Houart, 1992);

Murex noduliferus Sowerby, 1841 (a species of *Attiliosa* Emerson, 1968);

Murex pellucidus Reeve, 1845 (a species of *Pterynotus*).

The radula of *P. bibbeyi* (Fig. 26) was illustrated by AZUMA (1973: text fig. 3) as *Pterynotus barclayanus*, while that of *P. barclayanus* was illustrated by AZUMA (1976: text fig. 2) as *Pterynotus purpureus* Azuma, 1976, a synonym.

Etymology: From *Pterynotus* and its synonym *Marchia*, two genera previously used to include the species of *Pterymarchia* n. gen.



Figures 1-3.

1. *Pterymarchia tripterus* (Born, 1778), Central Philippine Ids, coll. RH, 55.6 mm.
2. *Pterynotus elongatus* (Lightfoot, 1786), Mactan Id, Philippine Ids, coll. RH, 29.3 mm (juvenile).
3. *Pterymarchia bipinnata* (Reeve, 1846), Tuléar, Madagascar, coll. RH, 19.8 mm (juvenile).

Subfamily OCENEBRINAE Cossmann, 1903

Vaughtia n. gen.

Type species: *Murex babingtoni* Sowerby, 1892: 2, pl. 1, fig. 1.

Range: South Africa.

Other included species:
Trophon jucundus Thiele, 1925: 169, pl. 18, fig. 13.
Murex dunkeri Krauss, 1848: 112, pl. 6, fig. 14.
Peristernia fenestrata Gould, 1860: 327.
Murex purpuroides Reeve, 1845: pl. 32, fig. 158.
Fusus scrobiculatus Dunker in Philippi, 1846: 118, pl. 3, fig. 4.

Description. Shell up to approximately 17 mm in length. Spire high. Spiral sculpture strong, consisting of high major cords and occasionally one or two minor cords. Axial sculpture low. Intersection of spiral cords and axial ribs giving rise to vaulted scales or knobs.

Aperture ovate; columellar lip adherent to the shell. Siphonal canal short, open.Operculum with subterminal nucleus (Fig. 21).

Radula ocenebrine with a sickle shaped lateral tooth. Rachidian tooth bearing a short, projecting central cusp; long lateral cusps flanked by inner lateral denticle; marginal denticles and short marginal cusp (Fig. 27).

Remarks. *Vaughtia,* n.gen., differs from any other ocenebrine supraspecific taxa in its distinctive spiral and axial sculpture, added to the short, open siphonal canal. The genus appears to be endemic to South Africa. Its species have been classified in different genera, not necessary in the Muricidae, as can be seen in the synonymy. Although the species seem to be similar, they can be separated into 6. No intergrading specimens have been observed yet. A careful study of the spiral ornamentation and of other characteristics of the shell morphology permits one to separate them on the specific level.

Etymology: Named for the late Kay C. Vaught, author of "A classification of living Mollusca", and keen *Murex* collector.

Vaughtia babingtoni (Sowerby, 1892)
Figs. 4-6, 9, 22

Murex babingtoni Sowerby, 1892: 2, pl. 1, fig. 1
Tritonalia semidisjuncta Turton, 1932: 76, pl. 18, fig. 551
Tritonalia aedicularum Barnard, 1969: 640, fig. 18e

Number of spiral cords on the last whorl: 6-8. Carinal cord and next abapical cord broadest. Number of spiral cords on the shoulder: 3 cords, usually 2 major cords, and 1 minor cord near the suture (Fig. 9).

Remarks: The cords are distinct, rounded, strong; usually there is a narrow thread between the carinal cord and the next abapical cord. The last whorl is rounded or occasionally weakly angulate.

Range: Agulhas Bank to Port Alfred.

Vaughtia jucunda (Thiele, 1925)
Figs. 13-14, 17, 19, 23

Trophon jucundus Thiele, 1925: 169, pl. 18, fig. 13
Ocenebra hayesi Lorenz, 1995: 57, figs 16-19

Number of spiral cords on the last whorl: 10-12 cords, of approximately same magnitude. Number of spiral cords on the shoulder: 3, decreasing in strength adapically (Fig. 17).

Remarks: The cords are distinct, although they are lower than in *V. babingtoni*. The axial sculpture is shallow, and is more obvious between the spiral cords.

The aperture is large, broader than in any other known species of *Vaughtia*.

Range: Cape St. Blaize to Port Alfred.

Vaughtia dunkeri (Krauss, 1848)
Figs. 8, 11, 20-21, 27

Murex dunkeri Krauss, 1848: 112, pl. 6, fig. 14
Ocenebra newmanni Lorenz, 1990: 12, figs 13,14

Number of spiral cords on the last whorl: 6 or 7 broad, flat, almost smooth cords, of approximately same magnitude.
Number of spiral cords on the shoulder: Shoulder smooth (Fig. 11).

Remarks: *V. dunkeri* is similar to *V. purpuroides* and differs in its smooth shoulder, in its relatively more angulate shell, and occasionally in its fewer axial varices.

Range: Western Cape, Sea Point to Kommetje.

Vaughtia fenestrata (Gould, 1860)
Figs. 15, 18

Peristernia fenestrata Gould, 1860: 327
Cominella puncturata Sowerby, 1886: 2
Cominella puncturata bipartita Turton, 1932: 53, pl. 12, fig. 394
Cominella fuscopicta Turton, 1932: 53, pl. 12, fig. 395

Number of spiral cords on the last whorl: 15-17.

Number of spiral cords on the shoulder: 6 (Fig. 18).

Remarks: The spiral cords are flat and crowded. The carinal cord and the next abapical cord are broader.

Range: False Bay to Port Alfred.

Vaughtia purpuroides (Reeve, 1845)
Figs. 7, 10

Murex purpuroides Reeve, 1845: pl. 32, fig. 158

Number of spiral cords on the last whorl: 8 or 9. Number of spiral cords on the shoulder: 2, rarely 3 (Fig. 10).

Remarks: The shoulder cords are narrower than the other cords.

Range: Saldanha Bay to False Bay.

Vaughtia scrobiculata (Dunker, 1846)
Figs. 12, 16, 28-33

Fusus scrobiculatus Dunker *in* Philippi, 1846: 118, pl. 3, fig. 4
Purpura cribrosa Krauss *in* Küster, 1859: 166, pl. 27, figs 5-6
Murex crawfordi Sowerby, 1892: 2, pl. 1, fig. 2

Number of spiral cords on the last whorl: 6 or 7. Number of spiral cords on the shoulder: 1, occasionally 2 (Fig. 16).

Remarks: The spiral cords are broad and high, usually with vaulted scales, rarely with a small thread between them. The shell is more rounded than *V. purpuroides* and has a smooth aperture, whereas *V. purpuroides* has denticles within the outer lip. In the Transkei occurs an abnormal form (monstrosity) of *V. scrobiculata* (Figs 28-33), already mentioned in KILBURN & RIPPEY (1982: 82) and in LORENZ (1995: 57). The last whorl of the shell is globular, the suture is deeply channeled, and the spiral sculpture is weak. In the extensive material of the Natal Museum, I could observe intermediate specimens, from almost normal shells with strong spiral cords, but already more inflated last whorl (Fig. 28), to almost smooth, globular shells with deeply channeled suture (Figs 32-33). The reason of this monstrosity is still unknown.

Range: Saldanha Bay to eastern Transkei.

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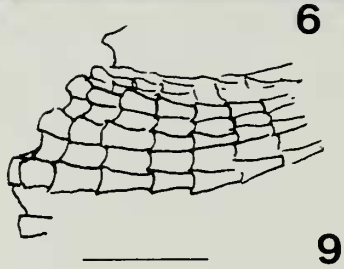

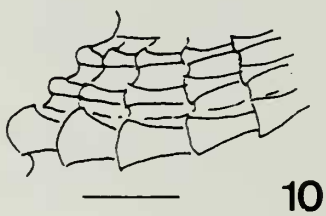

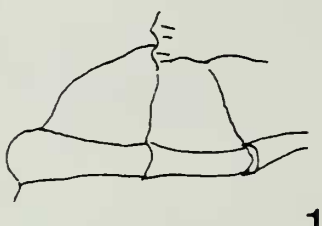

Figures 4-11

4-6 *Vaughtia babingtoni* (Sowerby, 1892). 4. Port Elizabeth, South Africa, holotype BMNH 99.4.14.3687, 15.5 mm. 5. Mossel Bay, South Africa, coll. RH, 15.3 mm. 6. Port Elizabeth, South Africa, coll. RH, 16 mm.

7. *V. purpuroides* (Reeve, 1845), West coast of Cape Peninsula, South Africa, coll. RH, 13.1 mm.

8. *V. dunkeri* (Krauss, 1848), Hout Bay, West coast of Cape Peninsula, South Africa, coll. RH, 13.4 mm.

9-11. Detail of shoulder sculpture (scale bar: 2 mm). 9. *V. babingtoni*; 10. *V. purpuroides*; 11. *V. dunkeri*.

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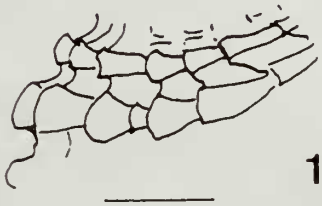

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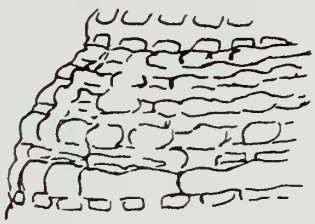

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Figures 12-18

12. *Vaughtia scrobiculata* (Dunker, 1846), Haga Haga, South Africa, coll. RH, 12.8 mm.

13-14. *V. jucunda* (Thiele, 1925), Off Cape St Blaize, South Africa. 13. NM B853, 9.1 mm; 14. coll. RH, 10 mm.

15. *V. fenestrata* (Gould, 1860), Jeffreys Bay (Kommetje), South Africa, coll. RH, 10.9 mm.

16-18. Detail of shoulder sculpture (scale bar: 2 mm). 16. *V. scrobiculata*; 17. *V. jucunda*; 18. *V. fenestrata*.

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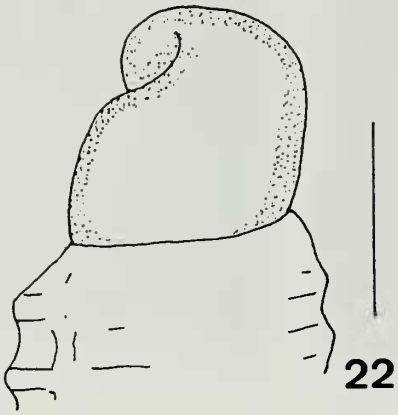

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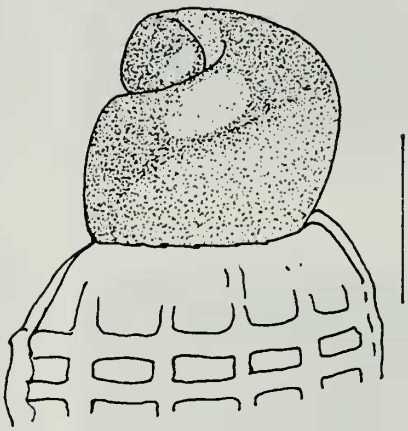

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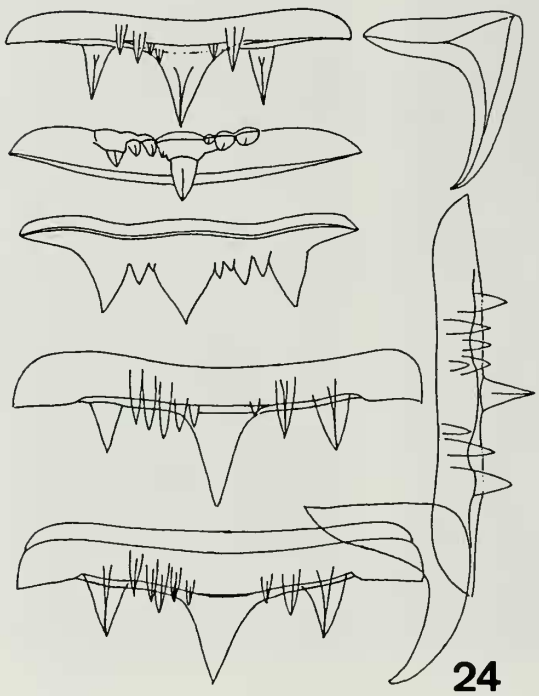

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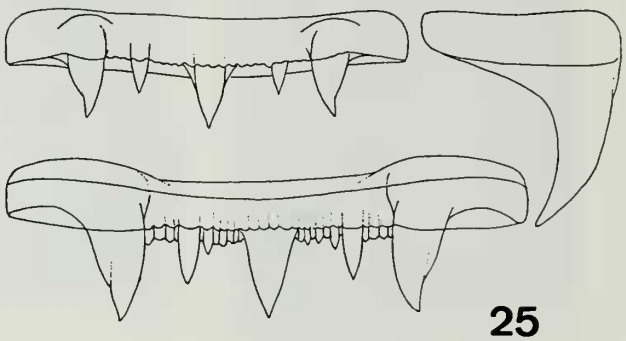

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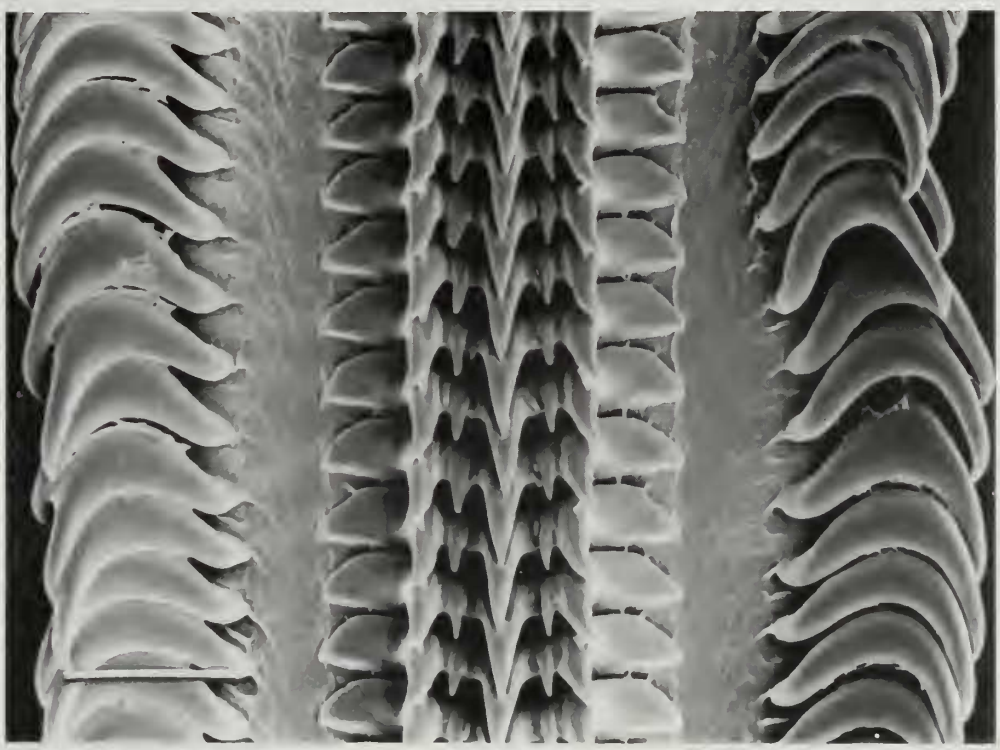
Figures 19-25

19. *Vaughtia jucunda* (Thiele, 1925), fig. 13, from THIELE (1925).
20. *Vaughtia dunkeri* (Krauss, 1848), fig. 14, from KRAUSS (1848).
21. Operculum of *V. dunkeri*, Hout Bay, South Africa (scale bar: 1 mm).
22. Protoconch of *V. babingtoni* (Sowerby, 1892) (scale bar: 0.5 mm).
23. Protoconch of *V. jucunda* (Thiele, 1925) (scale bar: 0.5 mm).
24. Different views of the radula of *Pterymarchia barclayanus* (H. Adams, 1873) (drawing A. D'Attilio).
25. Two views of the radula of *P. tripterus* (Born, 1778) (drawing A. D'Attilio).



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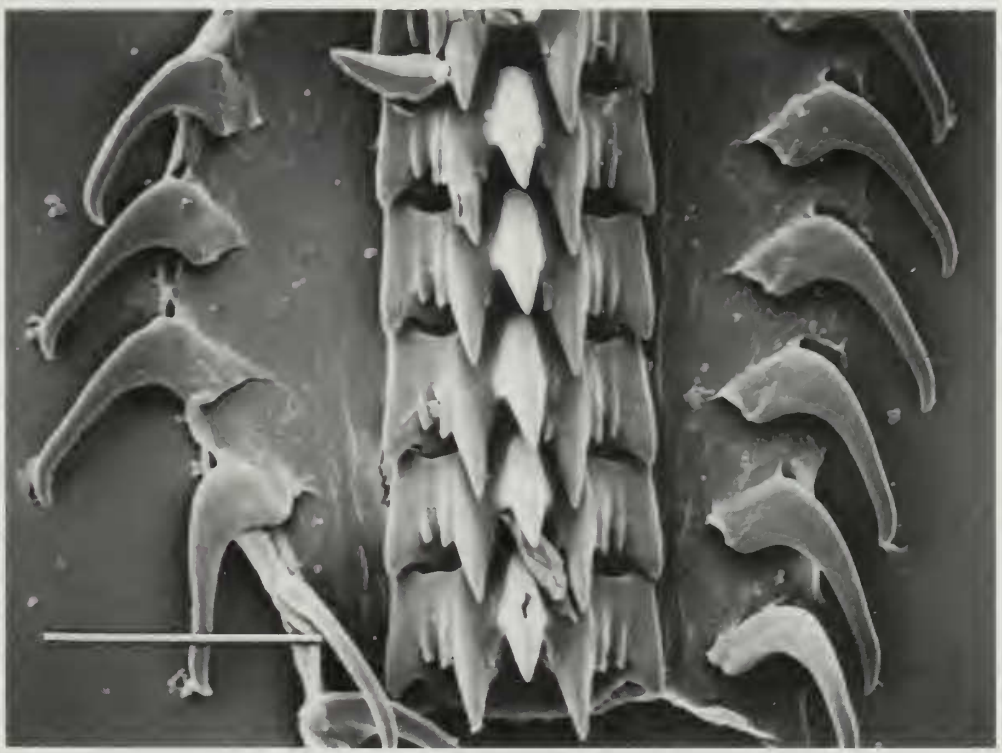

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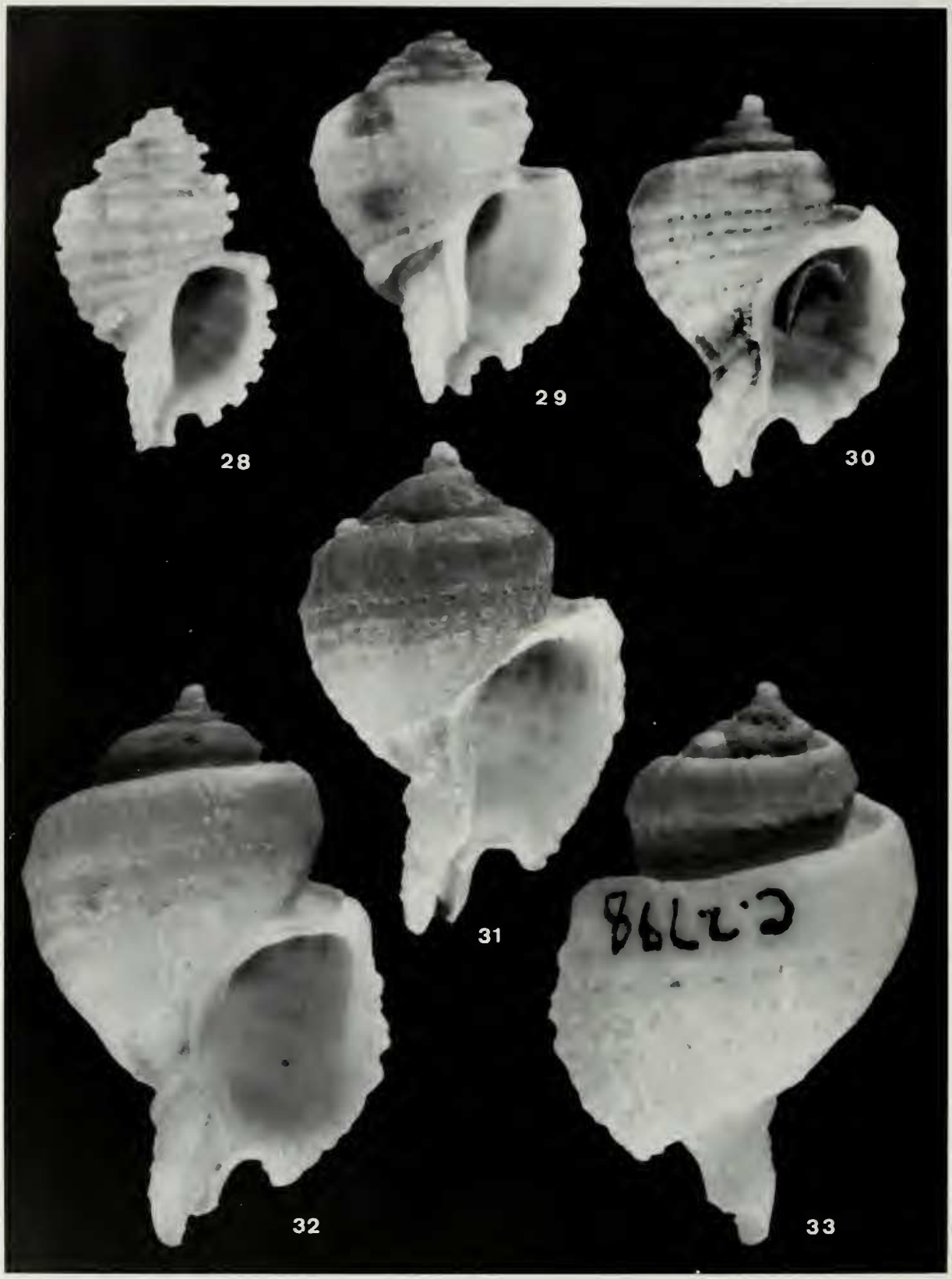
Figures 26-27 (radulae, scale bars: 50 µm)
26. Radula of *Pterymarchia bibbeyi* (Radwin & D'Attilio, 1976), Wakayama, Japan.
27. Radula of *Vaughtia dunkeri* (Krauss, 1848), Hout Bay, South Africa.



Figures 28-33 *Vaughtia scrobiculata* (Dunker, 1846), monstrosity.
28-29. Transkei, Xora, NM 6897, (28: 10.7 mm; 29: 11.4 mm).
30. Transkei, off Whale Rock, 31°56.9' S, 29°13.5' E, NM C7414, 8.6 mm.
31. Transkei, off Mncwasa Point, 32°05.5' S, 29°05.6' E, NM C2041, 10 mm.
32-33. Transkei, off Mncwasa Point, 32°05.3' S, 29°05.4' E, NM C2798, 12.8 mm.